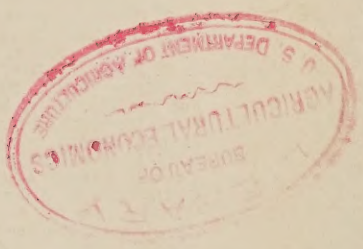
Kentucky Agricultural Experiment Station

University of Kentucky

ORGANIZATION OF THE LOUISVILLE WHOLESALE FRUIT AND VEGETABLE MARKET

BULLETIN NO. 368



Lexington, Ky.

March, 1937

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BULLETIN NO. 368

Organization of the Louisville Wholesale Fruit and Vegetable Market

By H. B. PRICE, C. D. PHILLIPS and S. E. WRATHER

At the request of the Jefferson County Farm Bureau, a study of the Louisville fruit and vegetable market was started in July, 1935, to get information regarding the organization and operation of the market. Information was obtained by personal interviews with growers who patronize the market, inter-city truckers and railroads hauling produce into and out of the market, wholesale dealers, and other agencies. A preliminary study was started in 1935 in expectation of completion in 1936, but a severe local drouth in 1936 created such abnormal relationships between local production and shipments of fruits and vegetables both into and out of the market that only a preliminary report can be made at this time.*

City produce markets have been under considerable pressure in recent years to increase facilities for handling and to improve the organization for marketing fruits and vegetables. Increased consumption of these products has made it imperative to improve and expand facilities for handling them. Greater dispatch and mobility in transportation has required development of those functions in marketing that facilitate intra-city and inter-state commerce. City markets that formerly functioned to supply the local population with fruits and vegetables are now often expected to take on the characteristics of a well-developed marketing system supplying a fairly large territory. This is particularly true where there is local advantage in producing fruits and vegetables.

Some of the important characteristics of city produce markets that meet the requirements of present-day needs are: first, ample facilities, well located and equipped to handle the physical supply with dispatch and at a reasonable cost; second, a market organiza-

*Acknowledgment is made of the cooperation of S. W. Anderson, County Agent in Jefferson County, the Department of Horticulture, University of Kentucky, officers of the Jefferson County Farm Bureau, engineers in the Engineering Department of the City of Louisville, officials of the Gardeners' and Farmers' Market, wholesale dealers, inter-city truckers and fruit and vegetable growers too numerous to mention.

tion that promotes exchange of commodities; and third, an adequate source of information to facilitate exchange, including systems of price quotations, market news, grading and inspection of products, standardization of packs and packages and other functions designed to provide a satisfactory basis for buying and selling.

This study was intended to test the Louisville market by the present-day requirements in marketing locally-grown fruits and vegetables. Since the time and resources at the disposal of the authors in 1935 and the unfavorable season in 1936 did not permit a full and thorogoing study of all aspects of the market organization, an evaluation of the efficiency of the market as a whole, cannot be made until there is opportunity for further research. However, inquiry has been made into certain important aspects of the market, the findings of which are here presented.

IMPORTANCE OF LOUISVILLE FRUIT AND VEGETABLE MARKET

Louisville is an important wholesale market for fruits and vegetables and, as such, it not only supplements locally-grown fruits and vegetables with produce shipped in from distant producing areas, but it also serves as the only source of supply of these products for a rather large area in Central Kentucky and Southern Indiana.

According to the best information available, fruits and vegetables amounting to between 11 and 12 thousand carloads are handled on the market yearly. Railroad receipts during 1936 amounted to 5,256 carloads; the equivalent of more than 3,000 carloads were received by motor truck, while approximately 3,000 carloads of locally-grown produce were handled on the market.

Fruits and vegetables are shipped into Louisville from every important producing area in this country as well as from some foreign countries, as is indicated by the accompanying chart (Figure 1) showing state-of-origin of car-lot unloads of fruits and vegetables during 1936 in Louisville.

The volume of these products has steadily increased in recent years. Railroad receipts in 1934 amounted to 4,174 carloads. This increased to 4,475 carloads in 1935 and to 5,256 in 1936. Data on receipts shipped in by motor truck are not complete but what are available indicate that receipts by this method of transportation have increased to an even greater extent. It is also true that during the past few years, except 1936, when production was drastically

reduced by drouth, there was an increase in the supply of locally-grown produce.

Three important factors appear to be chiefly responsible for this growth; first, increased consumption of fresh fruits and vegetables, especially at the time of the year when locally-grown produce is not available; second, increased production of locally-grown products; and third, improved transportation facilities.

The population of the Louisville metropolitan area increased nearly 30 percent in the decade 1920 to 1930, and altho data for a later period are not available, estimates indicate that the number of people in the area is still increasing. It is also probable that

Figure 1. State of origin of carlot unloads of fruits and vegetables during 1936, in Louisville.

there was an increase in the per capita consumption of fruits and vegetables within the area, in keeping with the growing per capita consumption for the country as a whole.

The delineation of market areas under the most favorable conditions of research is at best an approximation of borderlines of the areas, as the extent of a market area shifts with changes in market conditions. Judging from the movement of produce into and out of Louisville and also by the location and arrangements of highways and railroads, the area represented in Figure 2, with production shown in Table 1, is territory from which, under normal conditions, surplus fruits and vegetables produced are sent to Louisville. Pro-

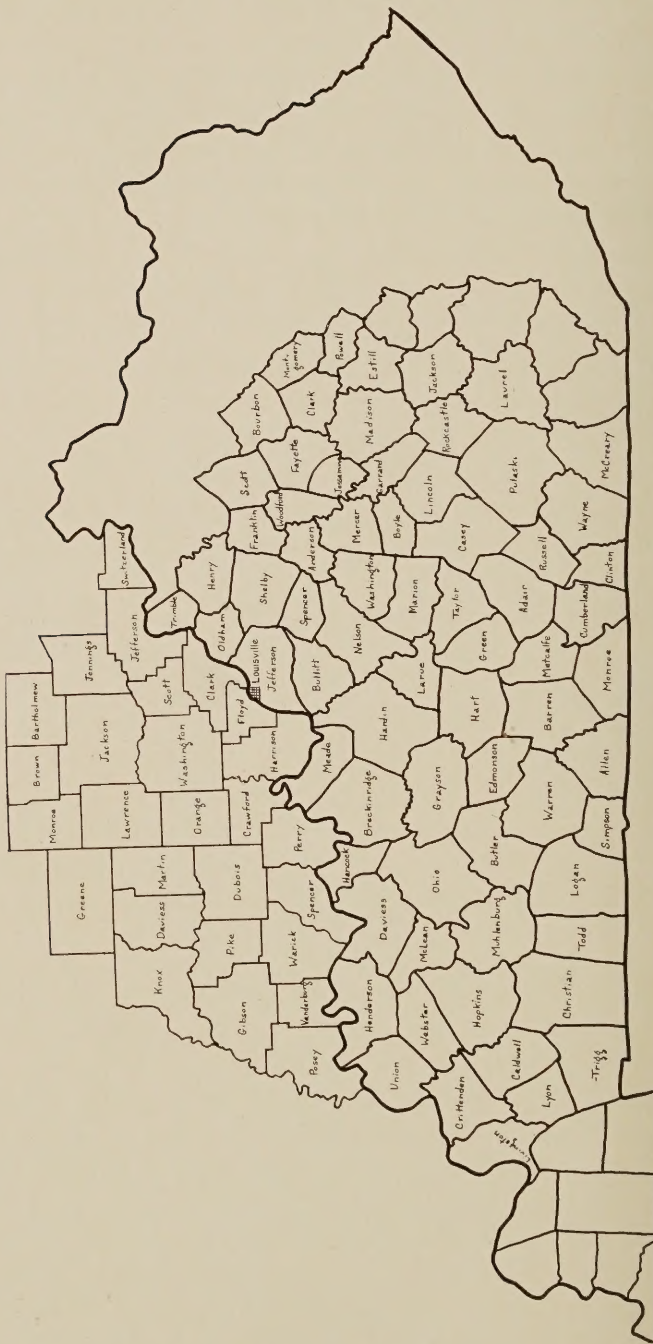

Figure 2. Area from which fruits and vegetables are marketed in Louisville.

duction of fruits and vegetables grown in the area tributary to Louisville has also shown considerable increase during recent years. Those commodities showing the greatest increase between 1920 and 1935 were cabbage, green corn, tomatoes, potatoes, sweetpotatoes, watermelons and strawberries. On the other hand, tree fruits all showed a decline. It is probable that further expansion will take place in the production of these products as there is an increasing demand for locally-grown produce.

No information as to the extent and growth of shipments of fruits and vegetables into or out of Louisville by motor truck is available, except the observations and opinions of persons on the market. Their judgment is that the importance of this type of transportation is growing, and that trucking may be relatively more important to the future growth of Louisville than to many other markets, because of Louisville's location with respect to markets situated in the Northern and Southern producing states. Located as it is, on important North-South arterial highways and midway between important northern and southern markets, Louisville is a

Table 1. Production of fruits and vegetables in Louisville market area

	1920	1930	1935
Fruits and vegetables harvested for sale, acres	26,121	50,499	73,769
Beans, acres	1,100	4,462	3,462
Cabbage, acres	674	1,364	1,896
Corn (sweet), acres	2,205	8,413	10,811
Tomatoes, acres	11,981	24,555	32,450
Watermelons, acres	3,603	3,574	10,259
Potatoes, acres	43,029	36,421	68,518
Sweetpotatoes, acres	8,217	7,299	14,927
Apples, trees of bearing age	3,489,344	2,286,575	2,077,813
Cherries, trees of bearing age	216,445	79,757	137,519
Peaches, trees of bearing age	1,545,570	1,523,112	1,448,018
Pears, trees of bearing age	252,145	183,757	177,778
Plums and prunes, trees of bearing age	236,830	122,557	111,878
Grapes, vines of bearing age	474,042	475,630	661,374
Strawberries, acres	3,169	4,834	5,160

From U. S. Census.

convenient point at which to exchange produce from the northern and southern areas. Thus the city becomes the terminus for fleets of trucks operating from the northern producing areas and from the southern producing areas. This situation provides opportunities that probably did not hitherto exist for the sale of locally-grown

fruits and vegetables, and lays the foundation for a large wholesale fruit and vegetable market which will not only serve the city of Louisville but will supply a much larger trade territory than is reached at the present time.

Locally-grown fruits and vegetables are included in this intercity trucking movement, altho to what extent is not clear. Nearly all locally-grown strawberries were shipped during the past three seasons by this mode of transportation. Grapes were shipped entirely by motor truck. Peaches and tomatoes shipped by growers cooperatively for the first time in 1935 were moved in the same manner. Out of 10,000 bushels of tomatoes, all but 3 carloads moved by truck and of 30,000 bushels of peaches only 7 carloads were shipped by railroad. Of less perishable commodities, the larger proportion of the commercial potato crop was moved out of the market by motor truck, in 1935 and 1936. This is shown in Table 2 for the four principal shippers.

Table 2. Disposition of locally-grown potatoes handled by the four principal dealers in Louisville, in 1935 and 1936. Carloads.

	Total 1935	Percent 1935	Total 1936	Percent 1936
Shipped by rail	216	29.4	14	8.3
Shipped by truck	373	50.8	90	53.6
Consumed locally	145	19.8	64	38.1
Total	734	100.0	168	100.0

The forces making for a larger volume of business in fruits and vegetables will probably continue to operate as in the past. Population of the metropolitan area will probably increase as wholesaling, manufacturing and commerce in the city and surrounding trade area develop. Trucking fruits and vegetables is gaining momentum and shipping perishables by rail continues to become more efficient. Production of locally-grown fruits and vegetables will increase as there are better local marketing opportunities, as local consumptive demand increases, as faster and more mobile shipping develops and as physical facilities are enlarged and made more efficient for exchange of locally-grown products.

ORGANIZATION OF THE LOUISVILLE FRUIT AND VEGETABLE MARKET

The Louisville fruit and vegetable market is organized similarly to other wholesale markets of like size and importance. A farmers' market place, correctly known as the Gardeners' and Farmers' Market, but commonly referred to as the Haymarket, provides the main outlet for locally-grown fruits and vegetables. Commission merchants and jobbers function chiefly to supply the local population and trade territory with fruits and vegetables shipped in from distant producing sections. These merchants also handle locally-produced fruits and vegetables in season and, when there is a surplus of locally-grown produce, find an outlet in other markets for it. A large proportion of locally-produced fruits and vegetables shipped out of the area is handled by farmers' cooperative marketing associations and produce exchanges. Three produce exchanges ship a large proportion of the commercial potato crop grown in the nearby communities of St. Matthews, Worthington and Buechel, and a cooperative fruit-growers association ships a large part of the strawberries, peaches and tomatoes destined for other markets. Selling by this association is done under agreement with a local commission merchant. During recent years, with the increase of motor transportation, a new type of middleman is developing to meet the needs of inter-city truckers. Altho the function of these middlemen is primarily to locate sources of local supply, some also handle incoming truck shipments on commission.

The present wholesale fruit and vegetable market is located in that part of the city generally devoted to wholesaling. It is known to have occupied the present location since 1892 when the Gardeners' and Farmers' Market was established, and since that time the volume of business has increased many fold. Changes and additions to facilities have been made from time to time to accommodate this expanding business, but in the absence of any plan for enlargement or reorganization, these changes were made only as a result of great congestion of traffic in the wholesale section or the pressure of other circumstances.

During this development the wholesale fruit and vegetable market became located away from railroad facilities. At present only one brokerage firm and the warehouses of three large chain

stores are located so as to have railroad facilities. All other wholesale dealers and jobbers, who handle fruits and vegetables, are located not less than three blocks from the nearest railroad unloading tracks, and some incoming produce is unloaded 15 city blocks from the wholesale section. (See Figure 3.) This lack of proper coordination of facilities necessitates extra handling of much produce received by rail, and a haul over crowded city streets to get to

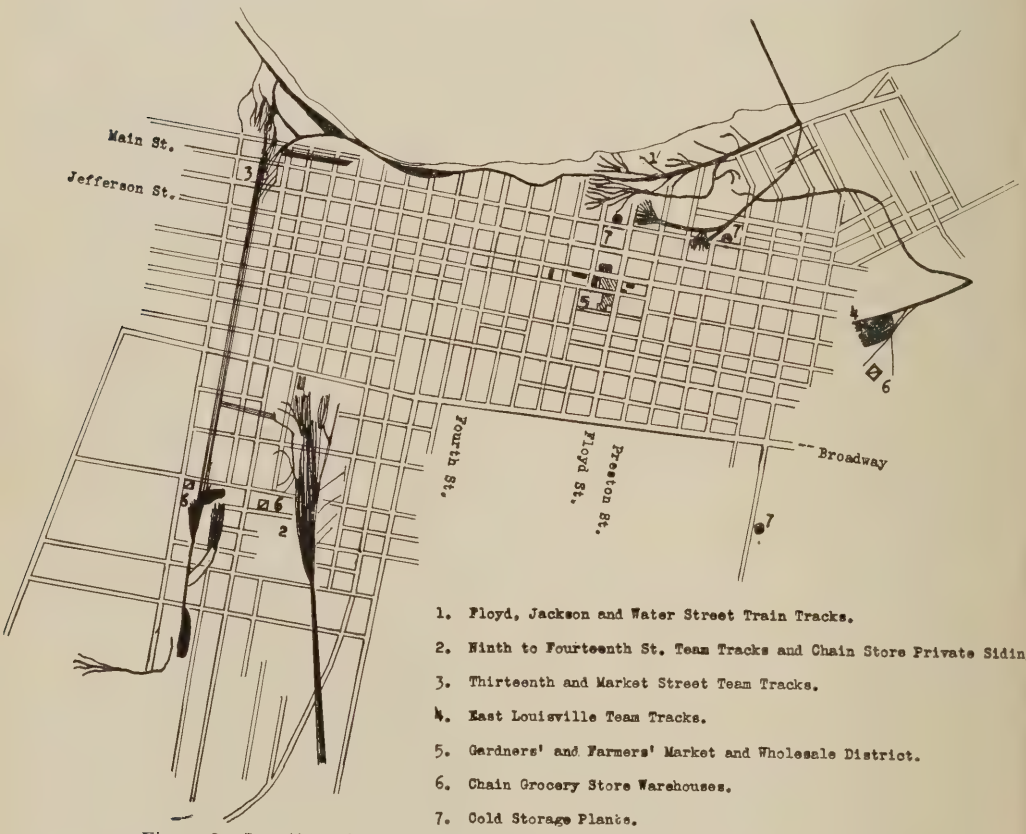

Figure 3. Location of railroad unloading tracks in relation to wholesale district.

the places of business of most wholesale dealers. Yet, until recent years, the major movement of foods into and out of the market was by railroad and, as pointed out earlier in this report, several thousand carloads of fruits and vegetables are now shipped yearly by this mode of transportation.

Some further indication of the extent of handling and trucking is given in Table 3. For example, during 1934-1936, 69.9 percent

of the receipts of fruit and vegetables were unloaded at the team tracks located closest to the wholesale district commonly referred to as the Floyd Street, Jackson Street and Water Street district and

Table 3. Yearly unloads of fruits and vegetables on various team tracks in Louisville, 1934 to 1936.

	Average number of carloads	Percentage
Floyd, Jackson and Water Streets	3,156	68.1
14th Street, 9th and Broadway and private sidings	1,266	27.3
Market and 13th Streets	133	2.9
East Louisville	81	1.7
Total	4,636	100.0

located within three to six blocks of the wholesale district; 25.6 percent were unloaded at points from 9th to 14th Streets within a few blocks of Broadway, including the private sidings of two large chain stores companies; 2.9 percent were unloaded at the team tracks located in the vicinity of 13th and Market Streets; and 1.6 percent at the East Louisville team tracks located in the vicinity of the Baxter Avenue Station.

The handling of traffic has at all times been a problem with the growth of business and the substitution of motor trucks for horse drawn vehicles. Streets have been widened and improved from time to time and arterial highways constructed to connect Louisville with other markets, but farmers, wholesale dealers, and inter-city truckers still find that streets leading to the market area are congested during busy hours of the day and that delay is often experienced in getting thru traffic of the city on account of inadequate highways serving the market.

The increase of inter-city trucking has given rise to the need for facilities to expedite the exchange of fruits and vegetables handled by operators of trucks. To meet this situation the Gardeners' and Farmers' Market has designated a portion of their space as an inter-city truckers' market. A large open shed has been erected to protect the loads from inclement weather, a covered platform for loading trucks and some equipment to assist in grading and packaging produce for out movement, has been provided. The inter-city trucker wishing to sell his own produce can rent stalls on the market

either by the day or by the year. Those selling fruits and vegetables in this manner must procure a license from the city for which a charge of $20 per year is made.

Besides these facilities, certain commission men who have developed a business to handle truck receipts on commission have warehouses where produce can be unloaded, graded and displayed for sale. Here there is usually very little equipment for handling and no facilities for cooling fruits and vegetables.

Another type of middleman which has developed to meet this situation assists truck operators in locating sources of local supply for out shipments. These middlemen usually do not have warehouses or other facilities for handling fruits and vegetables but act merely as bargaining agents for truck operators. The common method of operation for such middlemen is to have offices situated near the market in Louisville, where supplies are located for the truck operator either by telephone or personal visits. At times produce displayed for sale on the Gardeners' and Farmers' Market is used as samples, while the product is actually purchased in the country by the truck operators. On the other hand, some of these middlemen establish themselves outside the city near local producing areas. A significant result of this whole situation is to decentralize the market. Altho such arrangements may be of immediate advantage to truckers and growers, it can be reasonably questioned whether the decentralizing effect on the market is desirable as a whole and in the long run.

Another significant result of congestion and the lack of proper coordination of physical facilities, has been the decentralization of the wholesale market and scattering of marketing facilities, especially those for handling shipped-in produce. The physical facilities of the three largest chain-store grocery systems, all of which handle locally-produced fruits and vegetables as well as those which are shipped in, and two cold storage plants, as shown in Figure 3, are located in other sections of the city several blocks from the wholesale districts.

LOUISVILLE AS A MARKET FOR LOCALLY-GROWN FRUITS AND VEGETABLES

Louisville is an important wholesale center for fruits and vegetables furnishing the main supply of these products not only for a

population of about 400,000 living in the metropolitan area, but also for a rather large population living in Central Kentucky and Southern Indiana. It is strategically located with respect to rivers, highways and railroads to receive fruits and vegetables from distant producing areas and to function as a distributing center for locally-grown produce thruout a large trade territory. Louisville is the principal wholesale market outlet for most of Kentucky lying East of the Cumberland River and West of the Mountain Area in Eastern Kentucky, excluding a few counties near Cincinnati. Several counties in Southern Indiana are also easily served by it.

The city is especially important as a market place for growers living within a distance of forty miles. This is shown by the results of interviews with 223 farmers on the market during 1935 and 1936. Nearly ninety-six percent of these farmers operated farms located within 30 miles of Louisville, while only 1.8 had farms located more than 40 miles from the market. (See Table 4.) When the data were broken down to include only regular patrons, it showed that their farms averaged only 12.5 miles from the market, while if occasional patrons were included, the average rose to 14.4 miles. One producer interviewed lived 180 miles from Louisville. Even tho occasional patrons live long distances from the market, the larger part of the production of locally-grown fruits and vegetables appears to be within easy trucking distance of the market. More particularly, most of the truck and small fruit growers who patronize the market live in Jefferson County in which Louisville is located. Of 384 growers who rented stalls on the Gardeners' and Farmers' Market

Table 4. Distance in miles traveled by growers interviewed on the Gardeners' and Farmers' Market.

Distance from Market	Number of growers	Percentage of growers in each group
Under 5	16	7.3
5 – 9	73	32.3
10 - 14	85	38.4
15 – 19	22	9.9
20 – 24	9	4.0
25 – 29	9	4.0
30 – 34	1	0.5
35 - 39	4	1.8
Above 40	4	1.8
Total	223	100.0

for the 1935 season, 306 lived in Jefferson County, 44 in other counties of Kentucky, and 34 in Indiana. (See Table 5.) Because the growers interviewed were selected at random, the authors believe them to be representative of the farmers who patronize the market. They represented all parts of the near-by market area as well as sections in outlying districts. (See Table 6.)

Many of the counties included in the Louisville market area excel in the production of fruits and vegetables. Strawberries are produced commercially primarily in Jefferson County, Kentucky, and Clark and Floyd Counties, Indiana. These counties produced 160,000 crates, or the equivalent of 400 carloads of strawberries in 1935. Production in 1936 was decreased drastically because of drouth, but the acreage devoted to the crop was not. Approximately half of the grapes produced in Kentucky are grown in Jefferson County where, in 1934, the production was 680,000 pounds.

Growers in Kentucky counties adjacent to Louisville shipped cooperatively in 1935, 30,000 bushels of peaches which, no doubt, represented less than 50 percent of the peaches produced in these counties. In addition to locally-grown peaches, growers in the vicinity of Henderson, which is about 150 miles from Louisville, sold 50,000 bushels of peaches thru the Jefferson County Fruit Growers' Association. These figures do not take into account peaches produced in the Indiana portion of the Louisville area which probably equal in amount those grown in Kentucky.

Jefferson and Oldham Counties produce about 25 percent of the potatoes grown in Kentucky. These counties, in 1930, produced 1,127,715 bushels of potatoes. On the Indiana side Clark, Floyd, Harrison and Duboise Counties produced a total, in 1930,

Table 5. Counties where producers live who rent stalls by the season on the Gardeners' and Farmers' Market.

County	Number of stalls	Percent of total
Jefferson	306	79.7
Bullitt	30	7.8
Oldham	8	2.1
Nelson	6	1.6
State of Indiana	34	8.8
Total	384	100.0

Table 6. Distribution by counties of producers interviewed on the Gardeners' and Farmers' Market during 1935 and 1936.

County	Number of growers interviewed	Percent of total interviewed
Jefferson	181	81.2
Bullitt	17	7.6
Hardin	4	1.8
Oldham	2	.9
Nelson	2	.9
Shelby	1	.4
State of Indiana	16	7.2
Total	223	100.0

of 311,675 bushels. Table 1, compiled from the 1920, 1930 and 1935 census, shows the production of fruits and vegetables in the Louisville market area.

THE GARDENERS' AND FARMERS' MARKET

Fruits and vegetables that are grown locally are sold primarily at the Gardeners' and Farmers' Market. They are also sold by growers direct to retail stores, to inter-city truckers, to hucksters and to wholesale dealers, but the principal method of disposal is at the public market.

The Gardeners' and Farmers' Market is a public market of the open, wholesale type, located in the center of the wholesale district (see Figure 4). The market place, consisting of parts of two city blocks with improvements, is provided by the Gardeners' and Farmers' Market Company, a stock corporation organized under the general corporation laws of Kentucky. The Market is constructed primarily to accommodate growers altho sale of fruits and vegetables is not restricted to growers or to persons selling locally-grown produce. The Market is organized to promote sale at wholesale but retail selling is permitted. Actually, wholesale business is carried on in the early morning hours and up to about 10 A. M., after which retail sales are made. Small retailers are permitted by the market company to occupy growers' places of business during the remainder of the day.

The facilities provided for growers consist of a series of platforms that can be used for the display of produce. Some of these platforms are nine feet wide and 12 inches above the driveway, while others, remodeled during 1936, are only three inches above

the driveway and arranged in a parallel manner so that trucks and vehicles can be backed into them. Sheds have recently been constructed over about half of the platforms to provide protection from the weather. On a lot adjacent to the market place, recently purchased by the market company, is provided a large shed for the sale of fruits and vegetables brought into Louisville by inter-city truckers. On this lot are also a loading shed, equipment for grading potatoes and onions, and an ice crusher, all of which facilitate the loading and grading of locally-grown produce in inter-city shipments.

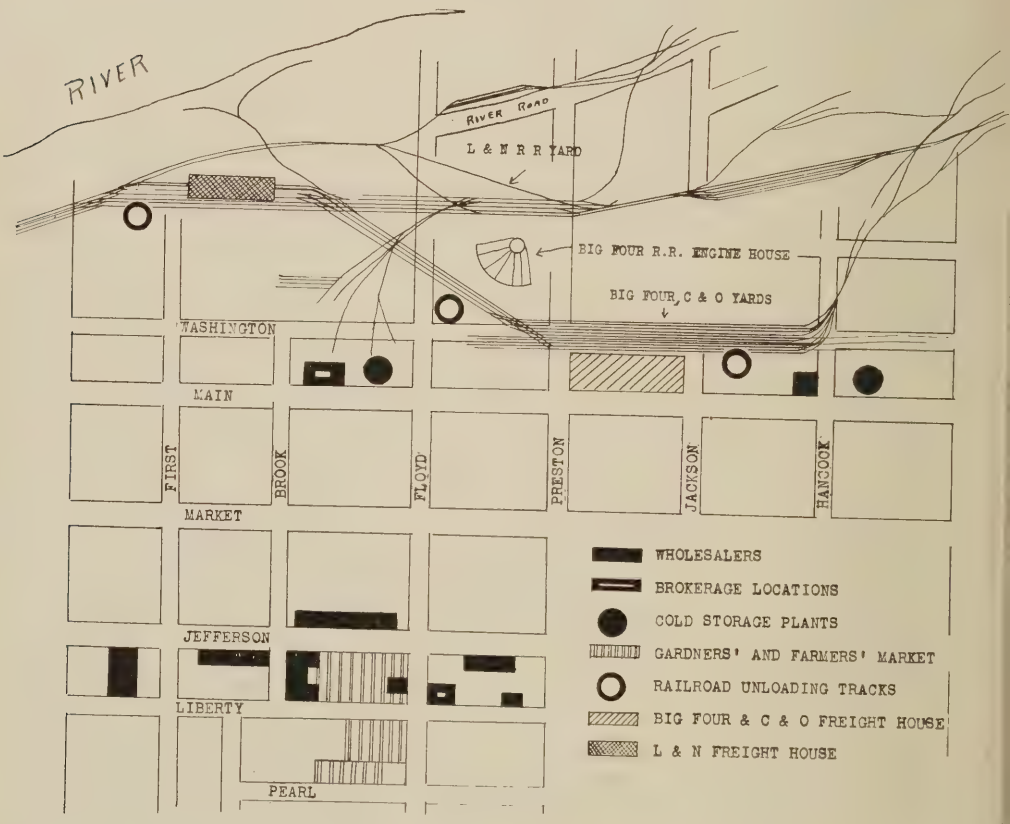

Figure 4. Wholesale fruit and vegetable district of Louisville.

Farmers patronizing the Market are of two general types, (1) those patronizing the Market regularly and (2) those marketing irregularly; the former generally rent space or stalls, by the season, the rent varying with the desirability of the location; the latter

rent space by the day and encounter the risk of having to accept less desirable space. Frequently, two growers cooperate in renting space and thus obtain at a lower cost to each, a desirable location on the Market. The first group of growers generally includes producers of a diversified assortment of fruits and vegetables who tend to locate near the Market. The occasional farmers, for the most part, come from greater distances and produce only one commodity for market, as green corn, tomatoes or melons. Of 150 such farmers located and living more than 50 miles from Louisville, 90 percent came from Indiana, mostly from those sections of Southern Indiana, where specialized production of green corn and tomatoes is practiced for local canneries.

The buyers on the Gardeners' and Farmers' Market are inter-city truckers, retail grocers, wholesale dealers, hucksters, and retail chain stores, named in order of importance. This conclusion is based on estimates of 106 growers who patronized the market in 1935. It is significant that approximately one-half of the growers reported inter-city truckers as their best customers. During 1936, however, when the supply of locally-grown produce was considerably reduced because of drouth and, in many cases, was of poor quality, inter-city truckers were not so important buyers as during the previous year.

It appears that nearly one-half of the products sold on the Gardeners' and Farmers' Market in 1935 were purchased by inter-city truckers. This was equivalent to about 1,400 carloads according to calculations of the authors. Retail grocers ranked second and wholesale dealers, including chain stores, ranked third. The total sales on the Gardeners' and Farmers' Market is thought to be conservatively estimated at the equivalent of about 3,000 carloads annually. This is well below figures calculated by officials of the market and by competent observers on the market.

The Gardeners' and Farmers' Market has provided a valuable and indispensable service for local growers of fruits and vegetables for more than forty years by furnishing a market place. The continued, widespread patronage of Kentucky and Indiana growers is evidence of its importance. However indispensable the market may be, many growers are still of the opinion that the organization and operation of the market are not adequately adapted to present

marketing requirements. For example, they point to the congestion of traffic that frequently exists in and near the market place, and the difficulty of approaching and leaving the market. Immediately, this situation is in part due to inadequate approaches, narrow driveways and narrow platforms for the display of wares and exchange of commodities offered for sale. In part it may also be due to the premature crowding of retailers into the market place in the morning or to failure of speculators to move out of the market place at the hour designated by the rules of the market, or before growers arrive at the market. The situation has been created by the growth in the volume of locally-grown fruits and vegetables, by the substitution of trucks for horse-drawn vehicles in farm marketing, and by the appearance of inter-city truckers as an important factor in the sale of fruits and vegetables. Rebuilding half of the old market place with new, wider and lower platforms and wider driveways was a big improvement. The development of a lot adjacent to the old market place as an inter-city truck market, with covered stalls and a covered loading platform, also tended to relieve the congestion of the market place, but has not solved the congestion of traffic caused by large trucks on the streets approaching the market place.

Farmers also complain about the amount of time required to dispose of their products. Growers who sold 289 loads during 1935 and 1936 indicated that they spent an average of 7.7 hours per load on the market. It took longer to dispose of a load during 1935 when supplies were large (8.7 hours) than during 1936 when the supply was reduced by drouth (7 hours). Detailed data are given

Table 7. Time required to sell a load of produce on the Gardeners' and Farmers' Market, 1935 and 1936.

Time	Number of growers	Proportion of growers
Under 5 hours	50	17.3
5 - 6.9 "	58	20.1
7 - 8.9 "	106	36.7
9 - 10.9 "	44	15.2
11 - 12.9 "	14	4.8
13 - 14.9 "	6	2.1
All over 15 hours	11	3.8
Total	289	100.0

in Table 7. Part of this difference was also due to the fact that in 1936 more than one-half of the producers who spent less than five hours on the market had only one commodity, such as strawberries; consequently they were able to dispose of this type of load much quicker than producers with mixed produce.

The crowded condition of the market occasionally accounts for the slowness of selling altho a more important reason appears to be the character of the buying. Grocers, hucksters, wholesale dealers and others buying for local consumption ordinarily obtain their daily requirements of fruits and vegetables during the early morning hours before retail establishments open for business whereas those agencies buying for out-of-city shipments must buy their supplies at a much earlier hour. This means that growers who wish to take advantage of this demand for home-grown products must arrive at the Market many hours earlier than when they were producing only for local consumption. The management of the Market, recognizing this situation, now permits growers to occupy their stalls from 10 o'clock in the evening until one o'clock in the afternoon of the following day. As the demand from out-of-city sources for locally-grown products increases, more growers follow the practice of reaching the Market late in the evening and spending the night or as long as is required to dispose of their produce.

There is no system of price quotations or market news for locally-grown fruits and vegetables, except as prices are quoted by a large wholesale merchant. These quotations represent prices at which jobbers are selling produce and not the prices being received by growers. Also very little progress has been made to adopt uniform containers and to standardize products. Products are, for the most part, marketed in a great assortment of containers; packs are not uniform as between growers, and quality of products varies widely. Much confusion exists as to prices; wide variations in prices for the same pack and quality often prevail on the market indicating the weak bargaining position of many growers because of an inadequate basis for bargaining and selling. Growers have continued to sell at the farmers' market, altho the basis of sale was unsatisfactory. Package, quality of products and market news take on new significance, however, as opportunity for export of locally-grown products appears. The present basis of sale may serve for

products destined for local consumption but it is wholly inadequate for a satisfactory and flourishing trade between cities.

WHOLESALE DEALERS

There are about 25 wholesale dealers of fruits and vegetables in Louisville. Several of these firms do a wholesale receiving and brokerage business in addition to jobbing; the others have a strictly local jobbing trade. Except for one firm which does essentially a carlot brokerage business, they are all located in the vicinity of the Gardeners' and Farmers' Market. (See Figure 4.)

These dealers are important outlets for locally-grown fruits and vegetables. Data obtained from them in this study show that in the aggregate they handle yearly the equivalent of 1,800 to 2,000 carloads of home-grown produce. Probably three-fourths of this amount is bought direct from growers at the dealer's place of business and the remaining one-fourth from growers at the Gardeners' and Farmers' Market. Products bought by the first method, are generally obtained by prearrangement with growers as to the time of delivery, quantity delivered and basis of price. For the most part, growers marketing by this method are the larger producers as well as those producing the better quality products. Moreover, they market in this manner because they believe that the amount of expense and labor required is less and the outlet more certain than when selling on the farmers' Market. It is interesting to note, however, that many of these farmers also sell fruits and vegetables on the Gardeners' and Farmers' Market in order to supply customers whose good will has previously been obtained.

Locally-grown fruits and vegetables bought by dealers are used chiefly to supply local retail trade and nearby small consumers' markets; few are shipped to other wholesale markets because when delivered by growers the products are not properly packed and graded for sale in large lots. Most Louisville dealers are not equipped to sort, grade, pack and otherwise handle miscellaneous supplies for sale in distant wholesale and jobbing centers.

INTER-CITY TRUCKING

In 1935, 38 operators of trucks were licensed by the City of Louisville to sell fruits and vegetables on the market. No license is required if the truck operator is only a purchaser. The number

increased to 111 in 1936. Many of these operators had more than one truck, so that there were considerably more trucks than licenses. Many of the truckers had headquarters in and operated from Louisville, altho fully half had headquarters in other markets.

In the absence of any central place for the exchange of commodities bought and sold by these dealers they do business in different sections of the market, altho they are most commonly found at a wholesale dealer's place of business or at the farmers' Market where, during 1936, a special part of the Market was designated as a place for them. Some truckers depend on wholesalers and jobbers to handle their produce. This is especially true of those truckers who visit the market irregularly and who do not wish to get a city license. A second group merchandise their own produce at the Gardeners' and Farmers' Market. Some occasionally contact retail stores as a means of disposal. Named in order of their relative importance the sources of home-grown produce purchased by truckers for shipment to other markets are: growers at the Gardeners' and Farmers' Market, wholesale dealers, and brokers who deal directly with individual growers.

Detailed information on receipts of fruits and vegetables were secured for April 27 to July 10, 1936.* During this period, at least 960 loads of produce were received by truck, 338 were sold on the Gardeners' and Farmers' Market, 513 were handled by wholesalers and commission men and 109 were delivered directly to chain stores. These receipts originated in 17 different states, altho 53 percent came from Georgia, Indiana and Michigan. Table 8 gives the states from which produce was received, and the number of truck loads from each.

Fruits and vegetables received by truck during May and June by commission merchants, at their places of business, by truck owners on the Gardeners' and Farmers' Market, and by the chain stores, amounted to 717 loads or the equivalent of 301 carloads. During the same period 1,058 carloads of fruits and vegetables were received by railroad. Thus about 3.5 carloads of produce were re-

*Data on inter-city truck receipts were gathered by the authors on the Farmers' and Gardeners' Market four or five days per week during the period. For the other days the data were collected by market officials. Data on truck receipts by commission merchants and wholesalers were secured by bi-weekly visits to their places of business. The two largest chain-store organizations furnished data on truck receipts by them, weekly during the period studied.

ceived by railroad for each carload received by truck during this period. It should be pointed out, however, that rail receipts for each of these two months were larger than for any other month of the year, while truck receipts were larger during the fall, so that for the year as a whole the ratio may be somewhat less.

Commodities most commonly trucked into Louisville in straight loads were potatoes, strawberries, apples, tomatoes and green beans. (Detailed information on commodities received and the amount in carloads is given in Table 9.) If the 1936 drouth had not reduced local production of most of these vegetables, truck receipts as well as rail receipts would probably not have been as large, but there is no measure as to what extent the drouth affected the movement.

Table 8. States of origin of inter-city truck receipts on the Louisville Market, April 27 to July 10, 1936.

	Number truck loads	Percent of total
Georgia	219	22.8
Indiana	157	16.4
Michigan	133	13.9
Ohio	75	7.8
Alabama	60	6.2
Florida	60	6.2
Tennessee	56	5.8
Mississippi	45	4.7
Illinois	41	4.3
Missouri	28	2.9
Kentucky	14	1.5
Wisconsin	3	
North Carolina	2	
Maryland	2	
Virginia	1	1.0
Oklahoma	1	
Louisiana	1	
Unknown	62	6.5
Total	960	100.0

Locally-grown fruits and vegetables were an important item in the out movement. However, the shipment of vegetables out of the market by motor truck was considerably less in 1936 than in 1935. During the two months of May and June, 1936, more than 100 truck loads of vegetables, mostly cauliflower, bunch beets, bunch turnips, kale, spinach, green beans, green peas, eggplant,

Table 9. Inter-city truck receipts* by commodities received on the Louisville market, April 27 to July 10, 1936.

Commodity	Number of carloads	Percent
Mixed vegetables	55.5	18.4
Potatoes	53.7	17.9
Apples	35.6	11.8
Tomatoes	31.5	10.5
Beans	27.7	9.2
Strawberries	26.3	8.7
Cantaloups	25.2	8.4
Peaches	16.6	5.5
Cabbage	13.2	4.4
Green Corn	2.2	.7
Lima Beans	2.2	.7
Watermelons	2.0	.7
Spinach	2.0	.7
Cucumbers	1.4	.5
Rhubarb	1.1	.4
Miscellaneous	1.0	
Peppers	1.0	1.0
Grapefruit	1.0	
Onions, leaf lettuce, celery, lemons, bunch turnips, oranges, sweetpotatoes, egg-plant, and radishes	1.6	.5
Total	300.8	100.0

*Converted to carload equivalent.

and cabbage were moved out of the market by motor truck.* Of the less perishable commodities, the larger proportion of the commercial potato crop was moved out of the market by motor truck in 1934, 1935, and 1936. Supporting evidence based on the shipments of the four principal shippers, is shown in Table 2. Nearly all strawberries were shipped out by motor truck during the past three years. The same was true for grapes in 1934 and 1935. No grapes were shipped in 1936. Peaches and tomatoes shipped by growers cooperatively for the first time in 1935 were moved almost entirely by motor truck. Out of 10,000 bushels of tomatoes, all but 3 carloads moved by truck and of 30,000 bushels of peaches only 7 carloads were shipped by railroad.

Truck operators in the fruit and vegetable trade, in common with other classes of truck operators, have an important problem in obtaining cargoes. The peculiar problem of these operators is

*This does not take into consideration the truck loads of vegetables that were hauled directly from the field.

to get an outgoing cargo, as more of them are bringing products to sell than are coming to buy. Being engaged in the fruit and vegetable business they prefer to haul only fruits and vegetables. In fact, preference for hauling only these products is so strong that they often travel without cargo if fruits and vegetables cannot be had.

During the period, April 27 to July 10, 1936, 70 truck operators who hauled both into and out of Louisville were interviewed. They brought 127 loads of produce into Louisville while only 65 loads were trucked away. This corresponds closely with a survey made in 1935, when 22 truck operators estimated that they brought 1,638 truck loads of produce into the market annually but trucked only 667 loads away. The principal reasons for this difference between in-shipments and out-shipments appear to be (1) poor facilities for the exchange of locally-grown products, (2) seasonality of production of fruits and vegetables, and (3) non-uniformity of pack and grade which makes it difficult to get round lots of home-grown products suitable for wholesale trade in other markets. Altho the relative importance of these reasons is not known, it is reasonable to believe that growers and marketing agencies have not fully developed the opportunities offered by these inter-city truckers for marketing home-grown fruits and vegetables.

Another type of inter-city trucker does a jobbing business within convenient trucking distance, buying his supplies of fruits and vegetables in Louisville and selling them in small markets along the main highways. There are perhaps twenty such operators. Commonly they visit their customers daily, on one day they take orders, and go on to Louisville to get supplies to fill these orders. On the return trip the following day the goods are delivered. These truckers do not present any problem for the central market not already mentioned for other truck operators, but they do offer an increasingly important outlet for distribution of products grown in the vicinity of Louisville.

CONCLUSIONS

Conditions under which this study was made prevented a full appraisal of the market. Only those aspects of the market could be studied that were fundamental to a general understanding of the problems of fruit and vegetable marketing or for which data not

affected by drouth conditions were readily available. Consequently, it was not possible to study such important problems as the effectiveness of the market organization for facilitating exchange; prices of fruits and vegetables as related to quality of product and prices prevailing in other markets; efficiency of marketing as measured by costs of operation both of growers selling on the market and wholesale dealers; and seasonality of market movement of both locally-grown and shipped in produce. Further information is also desirable on the service of both rail and highway transportation, in order to point out their relative importance in relation to quantity of produce handled and standard of service to the market.

Further suggestions for improvement of the market mechanism cannot be offered until there is opportunity to analyze marketing problems, either stated or implied in the lines of research suggested. Such research might cause modification of any tentative conclusions which could be reached in this preliminary study, altho it does not seem probable that it would change the following general conclusions: first, that there is lack of proper coordination of physical facilities for efficient marketing; second, that an efficient system of exchange has not been perfected to utilize fully the opportunity offered by new developments in transportation, especially motor transportation; third, the basis for exchange, without standardization of locally-grown products and market news service, is entirely inadequate; and, fourth, the various business groups interested in the Louisville fruit and vegetable market have not taken full advantage of their opportunities to develop wholesale marketing of fruits and vegetables.